10/521996

PCT/IT2003/000440

WO 2004/007268

TITLE

SEAT FOR A TWO-WHEELED VEHICLE

DESCRIPTION

Field of the Invention

The present invention relates to a seat for two-wheeled vehicles, bicycles, motorcycles and scooters for example, capable of oscillating around its longitudinal axis.

Background of the Invention

It is well known that when a cyclist pushes on the pedal, the upper internal part of his thigh rubs against the parts of the seat with which it is in contact and that this causes rubefaction and discomfort. Furthermore, the seat's rigid response to the movements carried out during the pedalling contributes in a not negligible manner to the feeling of discomfort typically associated with remaining for a long time on the seat of a bicycle and, after all, to the strain felt by the cyclist.

Object and summary of the Invention

The general purpose of the present invention is to provide a seat for two-wheeled vehicles that will make it possible to avoid the drawbacks that have just been outlined.

A particular aim of the present invention is to provide a seat of the aforementioned type that will be capable of oscillating about its longitudinal axis and such that said oscillation can be locked.

Another aim of the present invention is to provide a seat of the aforementioned type in which the amplitude of the oscillation about its longitudinal axis can be adjusted.

CLAIMS

1. A seat for two-wheeled vehicles, such as bicycles, motorcycles and scooters, comprising a relatively soft saddle support (1) to bear the rider and a supporting structure (2, 3, 4 and 5) of said support by means of which said support is connected to the seat-carrying upright (11) of the vehicle, characterized in that between said supporting structure and said upright there is provided a longitudinal pin (10) around whose longitudinal axis said relatively soft saddle support can oscillate, means of locking the oscillation of said pin being provided between said pin and said supporting structure.

2. A seat in accordance with claim 1, comprising also means for adjusting the amplitude of the oscillation around the axis of said pin.

3. A seat in accordance with claim 1 or claim 2, wherein said pin (10) is rigidly connected to said upright (11) and rotatably connected to said supporting structure (2 and 3).

4. A seat in accordance with claim 1 or claim 2, wherein said pin (10) is integral with said supporting structure (2, 3) and is connected to said upright (11) in such a manner as to be able to slide and turn.

5. A seat in accordance with claim 4, wherein a tubular guide (31) within which said pin (10) is mounted in such a manner as to be able to slide and turn is integrally connected to said upright (11), means (37, 38; 42; 54, 55; 59) being provided for controlling the sliding of said pin within said tubular guide.

6. A seat in accordance with claim 5, wherein said means for controlling the sliding of said pin within said tubular guide comprise pulling means (37, 38; 42; 54, 55)

that extend between said upright and at least one end of said pin and are connected to a remote actuation device (39).

7. A seat in accordance with claim 5, wherein said pin is threaded and said tubular guide is threaded on the inside, manual actuating means (59) being provided at one end of said pin to impart an angular displacement to said pin capable of causing the pin to slide within said guide.

8. A seat in accordance with any one of the preceding claims, wherein said means for locking the oscillation comprise an element (15) that slides on the supporting structure (3) and a seating (14a) integral with said pin (10), said sliding element being positioned on said structure in such a way as to be aligned with said seating to become engaged within it to lock the oscillation or to become disengaged therefrom to permit the oscillation.

9. A seat in accordance with any one of Claims 4 to 7, wherein said means for locking the oscillation of the pin also make it possible to regulate the amplitude of the oscillation and comprise at least one sleeve (40) integral with said tubular guide (31) and coaxial with it and at least one sleeve (41) integral with said pin and coaxial with it, the opposed ends of said sleeves being provided with complementary inclined surfaces (40a, 41a) that gradually become engaged with each other and reduce the oscillation possibility as the distance between them becomes smaller until they eventually come to constitute a perfect fit that locks every possibility of one end rotating with respect to the other.

10. A seat in accordance with claim 9, wherein a first sleeve (40) with an inclined end (40a) is coaxially fixed to one end of said tubular guide (31) and a second sleeve

(41) with a complementary inclined end (41a) is counterposed to the first and coaxially integral with one end of said pin (10), said pull wire (42) being connected to the other end of said pin and elastic means (43) being interposed between this latter end of said pin and the end of said tubular guide (31) opposite to the one to which said first sleeve (40) is attached.

11. A seat in accordance with Claim 3, wherein said supporting structure has parts (2, 3) integral with said saddle support (1) and parts (25) integral with said upright (11), the part integral with said upright being provided with longitudinal linkage elements (25) rigidly connected to said upright and converging onto two coaxially opposed pins (23, 24) that are rotatably connected to the part of the supporting structure rigidly connected to said relatively soft support.

12. A seat in accordance with any one of Claims 4 to 7, wherein said means for locking the oscillation of the pin also make it possible to regulate the amplitude of the oscillation and comprise two sleeves (50,51) with inclined ends (50a, 51a) coaxially fixed to the two ends of said tubular guide (31) two corresponding sleeves (52, 53) with complementary inclined ends (52a, 53a) being coaxially fixed to the ends of said pin (10), there being provided a remote manually actuated tension cable (54, 55) and has its ends connected to the ends of said pin, said tension cable being slidingly supported said upright, so that pulling said tension cable in one direction or the other will cause said pin to slide relatively forward or backward until it reaches the two limit positions of complete forward displacement or complete rearward displacement of the seat in which the respective pairs of

the inclined ends of said sleeves constitute perfect fits, thus preventing any relative rotation, whereas in the intermediate position relative rotation is possible with an increasing amplitude that depends on the distance between said inclined ends of said sleeves.

13. A seat in accordance with claim 12, wherein from said pin (10) there extends a tooth (57) that projects within a longitudinal slot provided on said tubular guide (31) capable of becoming engaged with a vault delimited by an arcuate portion (30a) bridging said tubular guide to prevent the rotation of said pin in an intermediate position between said extreme forward position of the seat and its extreme rearward position.

14. A seat in accordance with claim 1, wherein said pin (10) is slidingly and rotatably engaged in a longitudinal groove (62) integral with said supporting structure (2), there being provided, integral with said structure (2), pulling means (63, 64) for controlling the sliding in both directions and means (65) for locking the oscillation.

15. A seat in accordance with claim 14, wherein said means for controlling the oscillation comprise a radial rib (66) arranged between two walls (68, 71, 72) situated at a gradually variable distance from each other.

16. A seat in accordance with claim 15, wherein said walls situated at a gradually variable distance from each other consist of a flared groove (67) of a substantially triangular section provided in a small block (68) that can slide with respect to said pin, said rib (66) being engaged in said groove.

17. A seat in accordance with claim 15, wherein said walls situated at a gradually variable distance from each other consist of the ends of two setting screws (72, 73) axially

facing to each other and screwed into walls integral with said structure (2).

18. A seat in accordance with Claim 14, wherein said means for controlling the oscillation comprise a longitudinal groove (73) provided on said pin (10) and a prismatic tooth (74) of a substantially triangular section that can gradually become engaged within said groove (73).